

7 List of Preparers

This EA was prepared by a team of specialists with expertise in various environmental and technical specialties. The following individuals contributed to the preparation of this document.

Table 1 List of Preparers

Organization	Individual	Role
Clark County Regional Flood Control District	Dr. John Tennert	Agency review
CA Group	Helena Murvosh, PE, CFM	Technical Review
UES	Andy Butsavich	Project Manager and primary author
	Ken MacDonald	Senior Review
	Leslie Moore	Soils and Geology
	Dr. John Gorczyk	Cultural Resources
	Aldo San Pedro	Mapping
Ninyo & Moore	Courtney Brooks, CEM, CHMM	Hazardous Materials
	Crystal Castellanos, GIT	Hazardous Materials

8 References

[BLM] Bureau of Land Management. 1990. Draft Environmental Impact Statement, Flood Control Master Plan, Clark County Regional Flood Control District. Las Vegas (NV): Dames & Moore.

[BLM] Bureau of Land Management. 2004. Supplemental Programmatic Environmental Impact Statement, Clark County Regional Flood Control District 2002 master plan update. Las Vegas (NV): SWCA, Inc. Environmental Consultants.

Clark County Nevada. 2013. Clark County Soils Guidelines Map [Internet]. [2024 July].
https://maps.clarkcountynv.gov/gisplot_pdfs/geo/GEO5.1_Soil_Guidelines_Map.pdf

[CCRFGD] Clark County Regional Flood Control District. 2024. Interactive GIS Map [Internet]. [2024 July].
<https://gustfront.ccrfgd.org/fvjsnew/fvjsnew.html> .

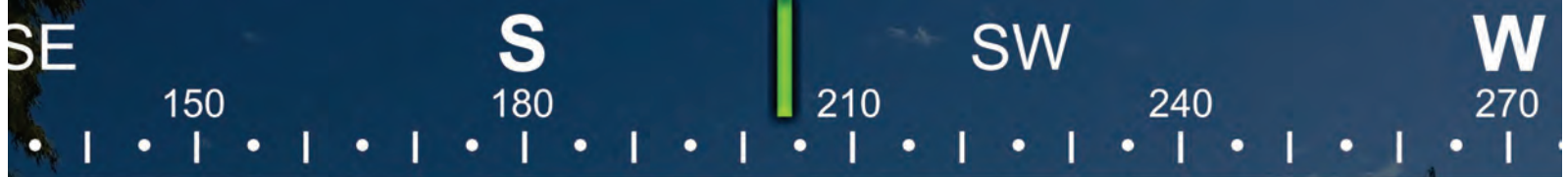
[NDWR] Nevada Division of Water Resources. 2024. Nevada Hydrology Data, Water Resources Map/Well Log Details [Internet]. [2024 July]. <http://webgis.water.nv.gov/>.

[N&M] Ninyo & Moore. Phase I Environmental Site Assessment. Sunset Park & Residential Alignment 2601 Sunset Road. Las Vegas, Nevada. May 2024

[NRCS] US Department of Agriculture Natural Resources Conservation Service. 2024. Soil Map Survey Map. Soil Map Unit Description Mapper. <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> . Accessed July 2024

[NVCRIS] Nevada Cultural Resources Information System Online Viewer.
https://nvcris.shpo.nv.gov/Html5Viewer/Index.html?viewer=NVCRIS.Restricted_NVCRIS# , accessed July 2024.

*Attachment 4: Ordinary High Water Mark
(OHWM) Duck Creek Wash*



☀ 204°SW (T) ● 36°3'53"N, 115°5'35"W ±36ft ▲ 1971ft



Ordinary High Water Mark



Channel

Sunset
20 Jul 2026, 10:04:43

Attachment 5: Groundwater Dewatering Study

Groundwater Dewatering Study Master Plan Flood Control Facility Sunset Park Channel Clark County, Nevada

CA Group

2785 South Rainbow Boulevard, Suite 100 | Las Vegas, Nevada 89146

October 18, 2024 | Project No. 305156002



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ningo & Moore
Geotechnical & Environmental Sciences Consultants

Groundwater Dewatering Study Master Plan Flood Control Facility Sunset Park Channel Clark County, Nevada

Ms. Helena Murvosh

CA Group

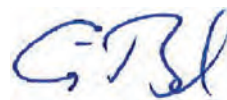
2785 South Rainbow Boulevard, Suite 100 | Las Vegas, Nevada 89146

October 18, 2024 | Project No. 305156002

A handwritten signature in blue ink, appearing to read "D Blamer".

Duane Blamer, PG
Principal Geologist

CAC/DWB/cas

A handwritten signature in blue ink, appearing to read "CJB".

Courtney James Brooks, CEM
Hydrogeologist

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- B – Laboratory Analytical Reports
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1 INTRODUCTION

In accordance with your request, Ninyo & Moore has performed a hydrogeologic evaluation for the proposed Master Plan Flood Control Facility project at Sunset Park that will extend between Eastern Avenue and Duck Creek Wash in Clark County, Nevada. The location of the approximate project alignment is indicated on Figure 1.

This Groundwater Dewatering Study consisted of the use of two temporary groundwater monitoring wells for groundwater sampling and testing for estimating aquifer conditions along the proposed alignment where construction dewatering may be performed. This report presents the findings of our study, results of our laboratory testing, and conclusions regarding the discharge permit requirements associated with this project. The groundwater data presented herein will be useful in preparing applications for construction dewatering permits along the sewer alignment.

Ninyo & Moore performed a geotechnical evaluation of the alignment concurrently with this survey, dated July 2, 2024, and submitted under separate cover.

2 PROJECT DESCRIPTION

We understand that the project includes the design and construction of approximately 7,800 linear feet of flood control improvements. The alignment begins at Eastern Avenue and extends through Sunset Park along the Maule Avenue alignment approximately 5,200 linear feet to Pecos Road. At that point the alignment extends another approximately 2,600 linear feet along portions of Pecos Road and Tobias Lane to its terminus at the existing Duck Creek Wash channel. It is our understanding that the portion of the alignment extending through Sunset Park will consist of 12'x5' RCB and concrete-lined low-flow open channel facilities. The portion of the alignment that will be located along the roadways will consist of 12'x8' RCB. The invert depths of the proposed facilities will be up to approximately 20 feet. We also understand that the improvements along the paved roadway portions of the alignment will be installed utilizing cut-and-cover methods. Additional project improvement includes some rectangular concrete-lined channel and asphalt concrete pavement design for Maule Avenue, Pecos Road and Tobias Lane. Tobias Lane and Maule Avenue have a right-of-way width (ROW) of 51 and 60 feet and are considered residential and minor collector streets, respectively. Pecos Road has a ROW of 80 feet and is considered an arterial roadway.

3 AQUIFER DESCRIPTION

Two temporary groundwater monitoring wells were co-located in geotechnical borings, as presented by Ninyo & Moore in its Geotechnical Evaluation report submitted under separate cover and dated July 2, 2024. The temporary monitoring wells are depicted on Figure 2.

Measured depth to groundwater ranged in depth from approximately 14 feet below grade at boring B-1 near the western park boundary, to approximately 8 feet below grade at boring B-9 near the proposed eastern outfall. The saturated media below the site was observed to be comprised primarily of lean clay with sand over firm sandy lean clay in boring B-1, sandy lean clay over silty sand in boring B-3, and sandy lean clay over fat clay in boring B-6, and silty sand that transitions to fat clay in boring B-9. Boring logs are presented in Appendix A. The depth of water from west to east below borings B-3 and B-9 ranges from approximately 10 to 8 feet, respectively, with an eastward gradient of approximately 0.01.

4 GROUNDWATER SAMPLING AND ANALYSIS

Ninyo & Moore personnel collected a groundwater sample from the temporary monitoring wells located in borings B-3 and B-6. The samples were collected into laboratory-supplied containers following well development using a pump and clean tubing. The sample containers were labeled with pertinent information (e.g., sample identification, date, and time, samplers' initials, and analyses required), placed in a cooler with ice, and transferred under chain-of-custody procedures to Asset Laboratories, a state-certified laboratory for analytical testing.

Laboratory analyses for the B-3 and B-6 groundwater samples detected trace concentrations of various analytes, but no contaminants above their respective reportable concentrations (RCs).

Based on these results, a full national pollutant discharge elimination system (NPDES) discharge permit is not expected to be required for the construction dewatering activities. Copies of the laboratory reports for the groundwater samples are presented in Appendix B.

5 AQUIFER HYDRAULIC ANALYSIS

Ninyo & Moore performed aquifer testing of the temporary monitoring wells, the output of which was analyzed using the hydrogeologic platform AQTESOLV. The AQTESOLV estimated hydraulic conductivity values for each well tested. The range of K values for each well, presented in feet per day (ft/d) are tabulated in the tables below. The aquifer testing data are presented in Appendix C.

Ninyo & Moore entered the higher, more conservative hydraulic conductivity values in the groundwater models to estimate the approximate flow rates that could be expected to achieve project dewatering objectives, as presented in Tables 1 through 2.

Table 1 – Dewatering Modeling Input	
Parameter Description	Model Input B-1/B-9
Site Elevation*	2,031' / 1,958' AMSL
Site Depth to Groundwater	14' / 8.32'
Site Groundwater Elevation	2,017' / 1,950' AMSL
Site Target Dewatering Elevation	2,019' / 1,936' AMSL
Site Target Dewatering Drawdown	22'
Site Estimated Hydraulic Conductivity	1 ft/day
Notes: * Average based on Google Earth and design plans AMSL – above mean sea level (NAVD 88) All elevations are approximate	

6 GROUNDWATER MODEL DESIGN AND OUTPUT

For the purpose of this study, target dewatering elevations are approximated based on the preliminary design invert elevations compared to the measured groundwater elevations, as measured on the dates of drilling. Some variations may be observed during construction.

The groundwater model processing platform, Groundwater Vistas, was utilized to create groundwater simulations utilizing the Modflow method (2007). Computerized finite difference groundwater models were set out on grids with uniform 20-foot row and column spacing over an area of 9,520 feet east-west and 8,620 feet north-south centered on the site. The models assume that homogeneous and isotropic aquifer conditions exist horizontally across the grid, and that the park pond and aquifer are in hydraulic communication. The models were designed to estimate the approximate number and configuration of wells expected to dewater the project excavations to their respective target dewatering elevations. The models were run for multiple time durations until steady-state groundwater conditions were achieved. Model output results are tabulated and provided in Appendix C.

Table 2 – Dewatering Modeling Output	
Parameter Description	Model Input / Output
Assumed Excavation Dimensions (L x W x D)	500' x 8' x ≥20' deep
Estimated Number of Wells / Extraction Points	12
Estimated Combined Flow Rate (per 500' trench)	>60 gpm (<100 near pond)

The utility trench is expected to pass within approximately 100 feet of the pond on the western portion of the project alignment. As the pond stage is higher than the groundwater measured

along the alignment, it is assumed that the static water table elevation will be higher in this area than in the more distant areas. Therefore, it is expected that the construction dewatering pumping rate in this area will be higher than in more distant areas. This scenario is exhibited in the groundwater model, where the four wells closest to the pond required increased flow rates in order to achieve the target drawdown. The groundwater model predicts a combined flow rate of 50 gpm (gallons per minute) per 500-foot trench section distant from the pond. This configuration and flow rate should achieve the target drawdown for the length of the alignment, with the possible exception of that portion that will pass along the southern edge of the pond. The model predicts that wells pumping in the area nearest to the pond may require increased flow rates of approximately 8 gpm to achieve the target drawdown levels. The predicted flow rates should be used in the preparation and submittal of applications for dewatering permits.

The model estimated that the target dewatering elevations would be achieved after approximately 2 to 3 days of continuous pumping. However, the actual dewatering results may vary depending on the dewatering system design (e.g., well points, sump pump), well construction/development/efficiency, and excavation method/approach. The dewatering contractor should therefore plan accordingly to avoid unnecessary delays.

7 CONCLUSION

The results of this dewatering study indicate that a standard construction dewatering permit should be appropriate for a linear trench-and-cover excavation spanning the proposed project alignment between approximately B-1 and B-9. We assume that the dewatering excavations will be limited to approximately 500 linear feet by 16-foot sequential segments.

Based on the B-3 and B-6 groundwater laboratory results, dewatering operations would not be expected to cause or contribute to a water quality excursion above State or Federal water quality discharge limitations from the project area. A general discharge permit application should be prepared at least six months prior to the start of construction.

8 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines, and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be

encountered during subsequent activities. Please also note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

9 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.



Courtney James Brooks
Hydrogeologist

October 18, 2024

Date

10 REFERENCES

Bouwer, Herman and R.C. Rice, 1976, A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, Water Resources Research, v. 12, pp 423-428.

Bouwer, Herman, 1989, The Bouwer and Rice Slug Test – An Update, Ground Water, vol. 27 No.3, pp 304-309.

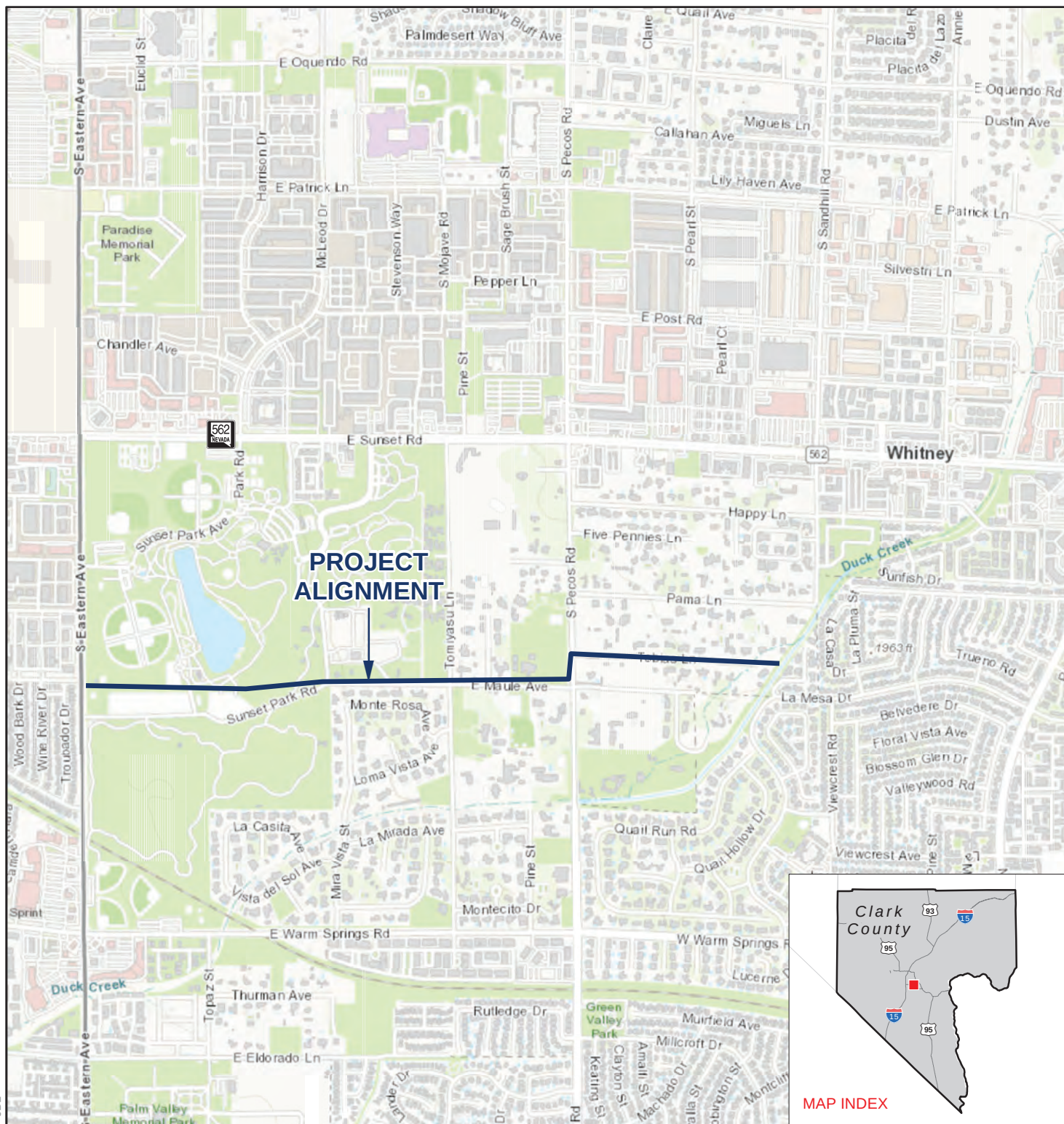
Groundwater Vistas, Mudflow win32. ver 4.

HydroSOLV, 2007, Aquifer Test SOLVer (AQTESOLV), ver 4.50, August 2007.

State of Nevada, Division of Water Resources (DWR), 2024, Nevada Hydrology Data: <http://webgis.water.nv.gov>.



FIGURES



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2024

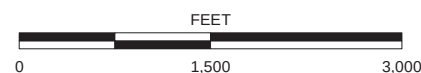


FIGURE 1

ALIGNMENT LOCATION

SUNSET PARK & RESIDENTIAL ALIGNMENT
2601 SUNSET ROAD, LAS VEGAS, NEVADA



LEGEND

B-9
TD=26.5



BORING
TD=TOTAL DEPTH IN FEET

B-6
TD=26.5



BORING / MONITORING WELL
TD=TOTAL DEPTH IN FEET



PROJECT ALIGNMENT



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCES: FAULTS - NEVADA BUREAU OF MINES AND GEOLOGY, 2000; GOOGLE EARTH, 2024

FIGURE 2

BORING / MONITORING WELL LOCATIONS

SUNSET PARK & RESIDENTIAL ALIGNMENT
2601 SUNSET ROAD, LAS VEGAS, NEVADA

305156002 | 10/24



APPENDIX A

Boring Logs

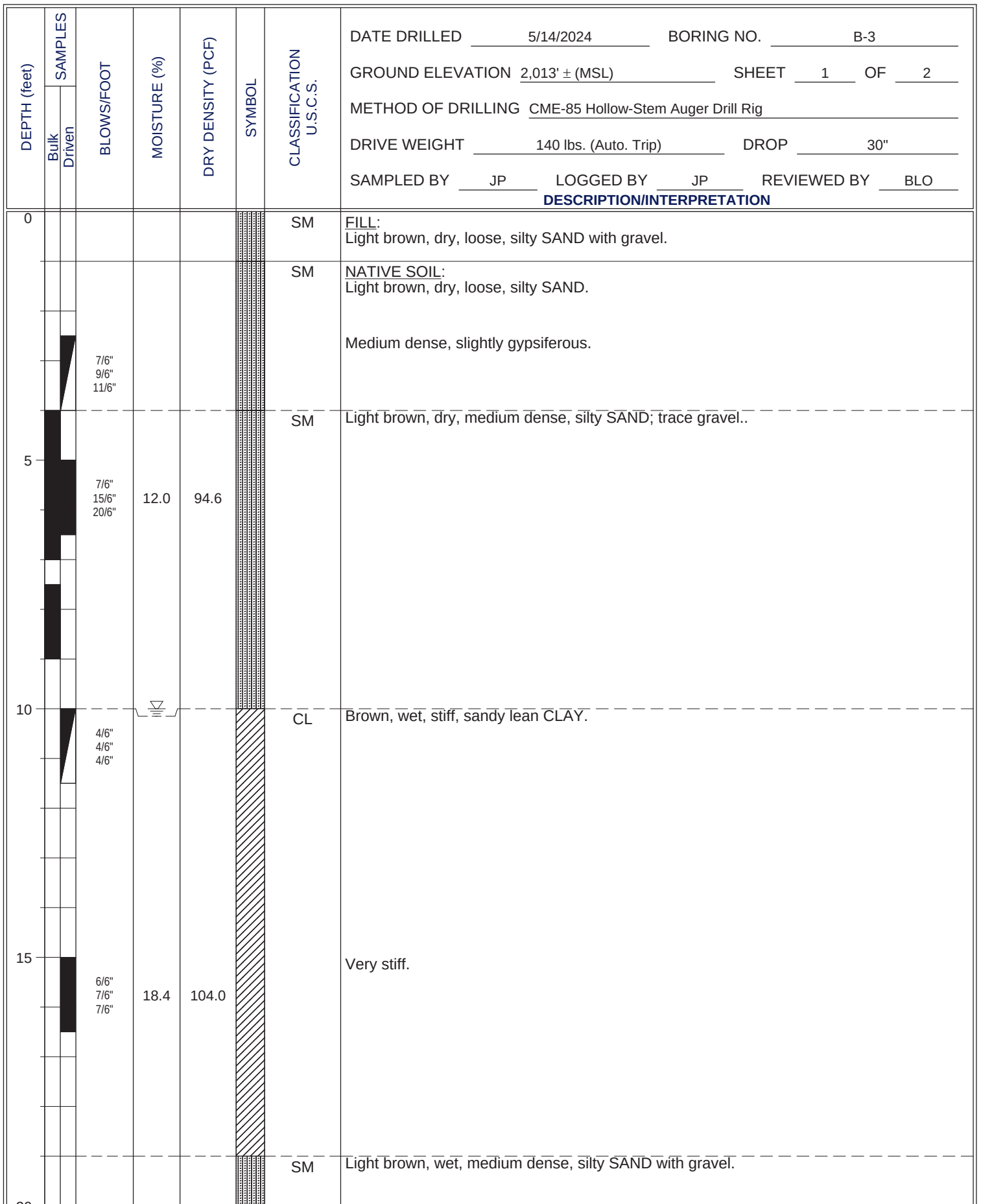


FIGURE A- 5

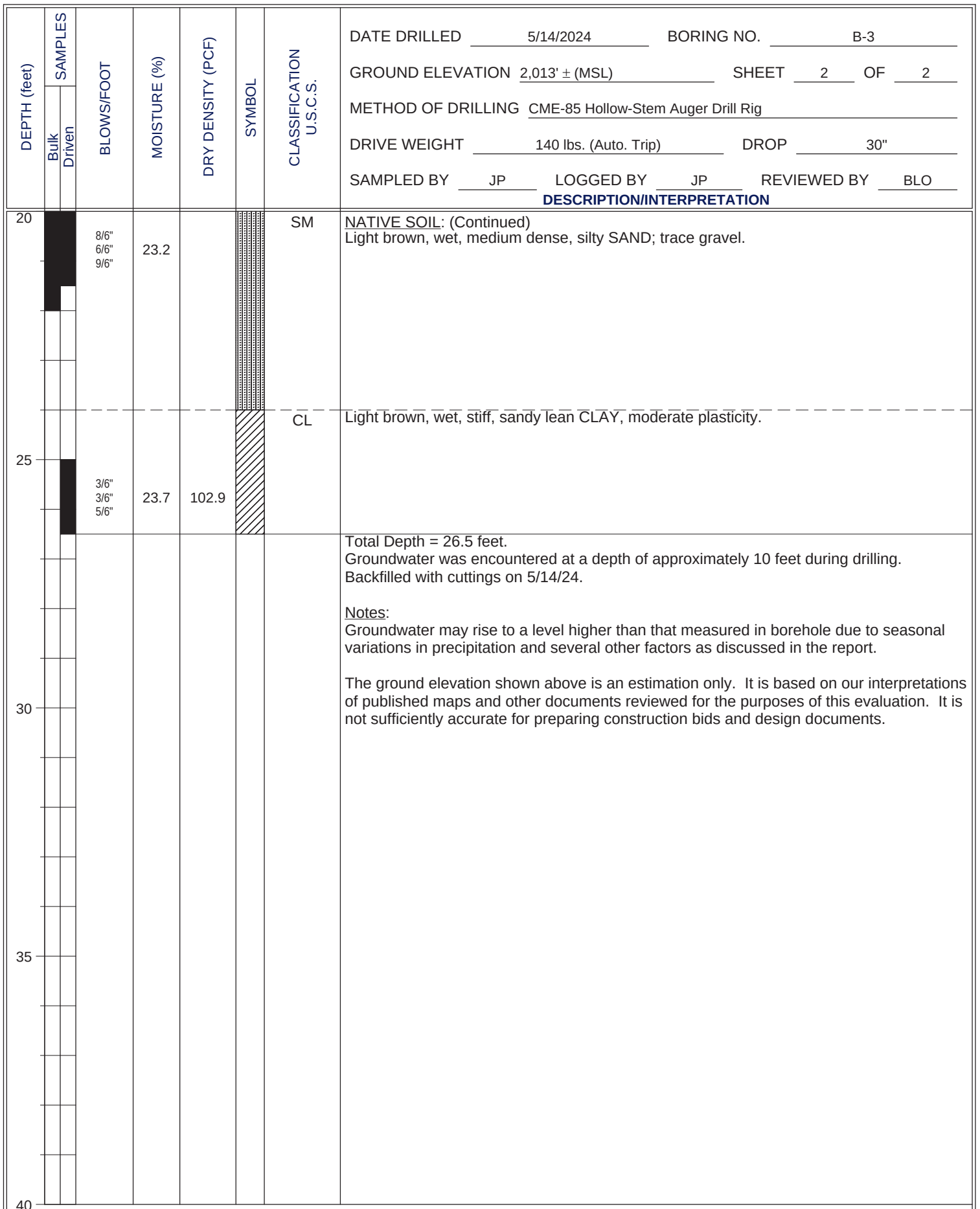


FIGURE A- 6

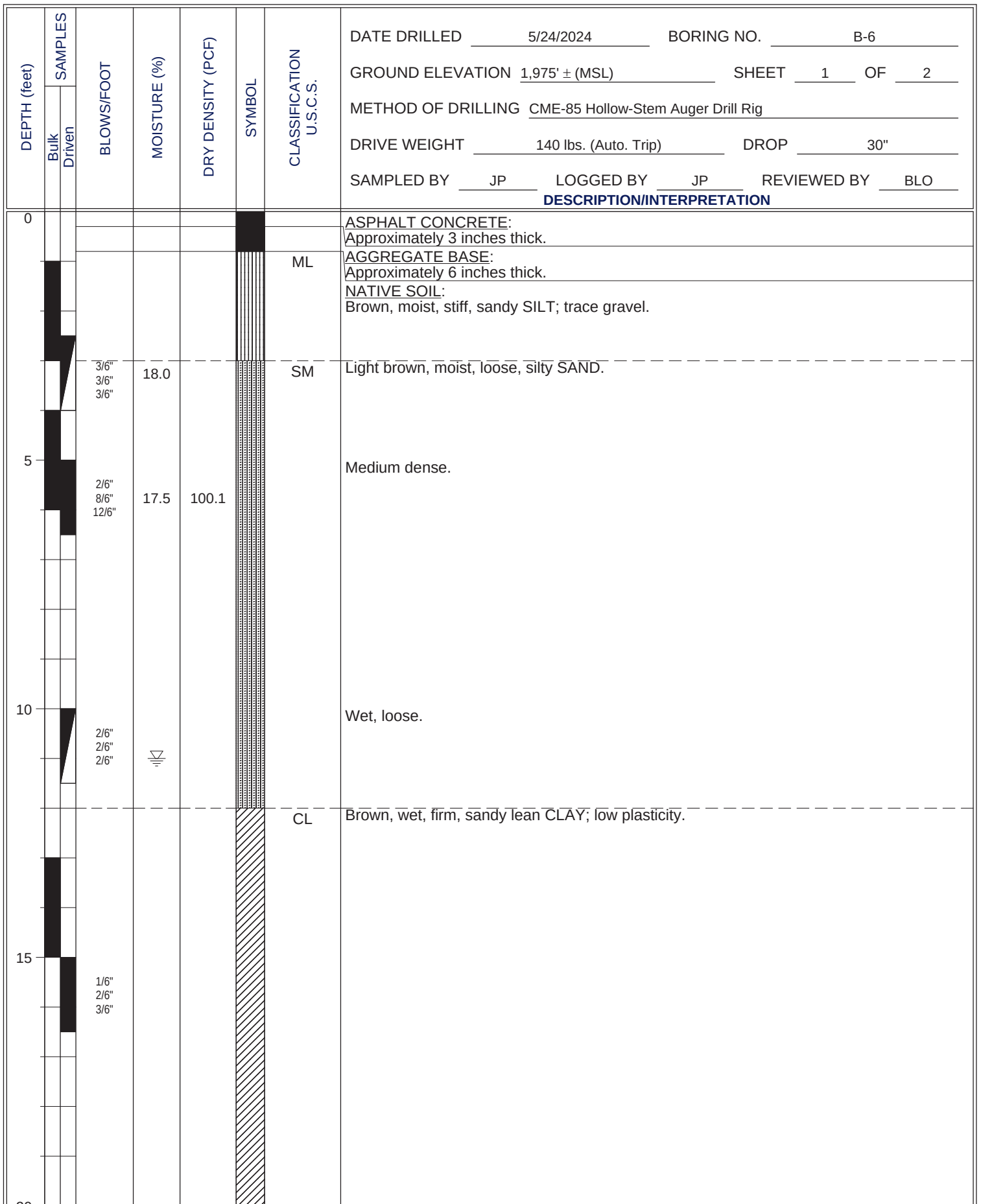


FIGURE A- 11

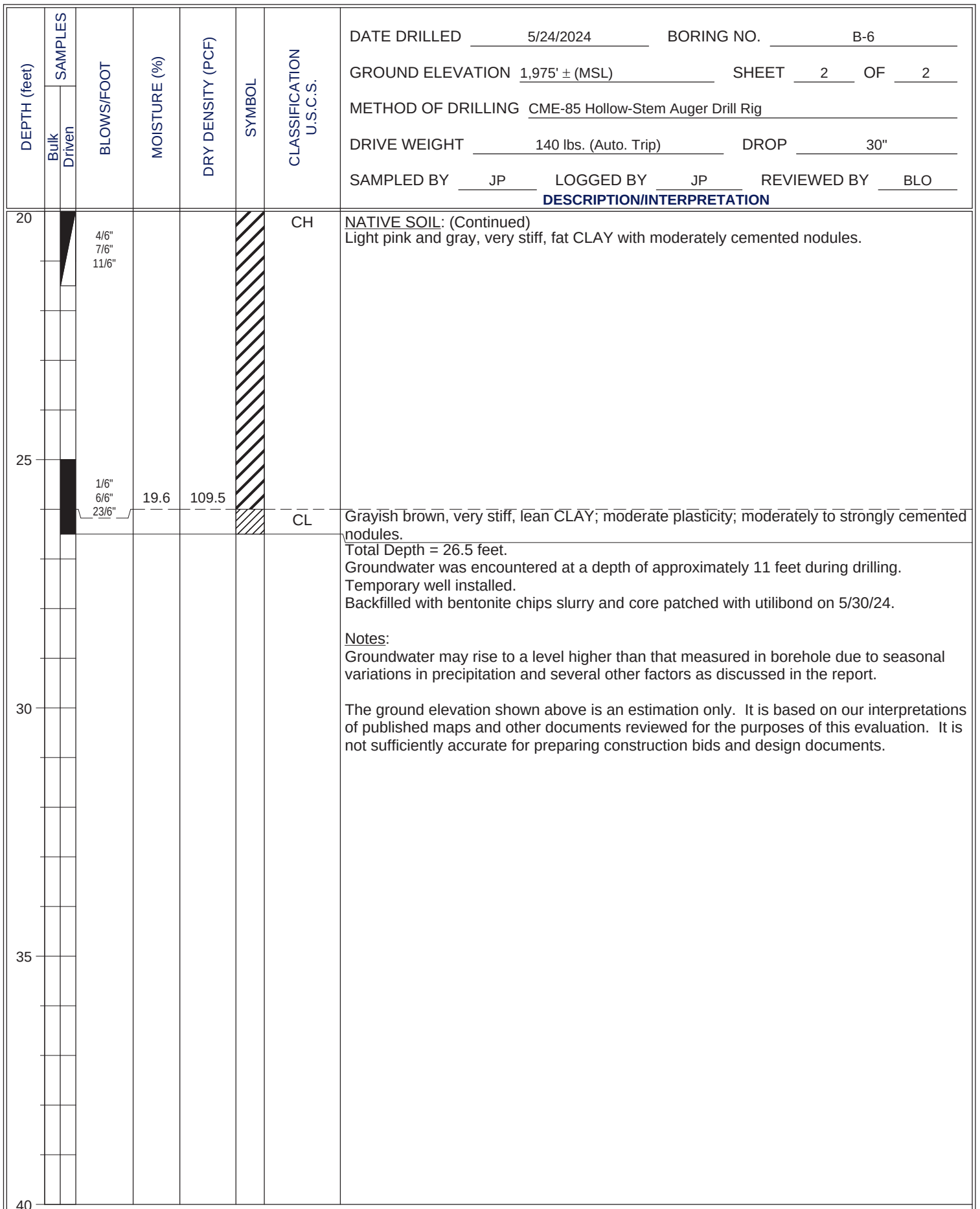


FIGURE A- 12



APPENDIX B

Laboratory Analytical Report



ANALYTICAL REPORT

June 12, 2024

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Ninyo and Moore - Las Vegas

Sample Delivery Group: L1736218

Samples Received: 05/15/2024

Project Number:

Description: Profile 1 Cat 4

Report To: Crystal Castellanos
6700 Paradise Rd., Suite E
Las Vegas, NV 89119

Entire Report Reviewed By:

Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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¹ Cp
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SAMPLE SUMMARY

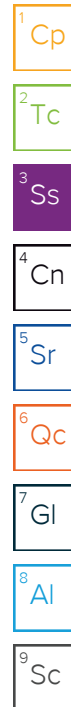
B-3 L1736218-01 WW

Collected by
Crystal Castellanos

Collected date/time
05/14/24 14:00

Received date/time
05/15/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2290176	1	05/23/24 17:47	05/23/24 17:47	JAS	Mt. Juliet, TN
Calculated Results	WG2289930	1	05/31/24 21:06	05/31/24 21:06	JPD	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 C-2011	WG2290138	1	05/21/24 09:38	05/21/24 14:14	DLS	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2015	WG2288515	1	05/17/24 14:00	05/18/24 13:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2130 B-2011	WG2287019	1	05/15/24 15:02	05/15/24 15:02	SJA	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2288995	10	05/20/24 22:23	05/20/24 22:23	ERP	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2288995	100	05/20/24 22:41	05/20/24 22:41	ERP	Mt. Juliet, TN
Wet Chemistry by Method 314.0 Mod	WG2289082	5	05/20/24 13:28	05/20/24 13:28	ASM	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2290978	1	05/22/24 11:56	05/23/24 17:47	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2290176	2	05/21/24 14:47	05/21/24 14:47	BMD	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2292287	1	05/22/24 11:56	05/23/24 16:03	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500CI G-2011	WG2287685	1	05/17/24 11:43	05/17/24 11:43	JAR	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2287384	1	05/16/24 12:08	05/16/24 12:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 4500O G-2016	WG2290333	1	05/21/24 11:10	05/21/24 11:10	HMH	Mt. Juliet, TN
Mercury by Method 245.1	WG2286918	1	05/16/24 09:25	05/16/24 19:21	SDG	Mt. Juliet, TN
Metals (ICP) by Method 200.7	WG2289924	10	05/22/24 08:35	05/22/24 21:56	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2289930	1	05/21/24 09:00	05/31/24 21:06	JPD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2300522	1	06/08/24 08:36	06/09/24 17:10	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 200.8	WG2301776	10	06/10/24 08:32	06/11/24 21:29	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2289367	1	05/19/24 15:39	05/19/24 15:39	BAM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2288081	1	05/17/24 09:33	05/17/24 09:33	DYW	Mt. Juliet, TN



CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

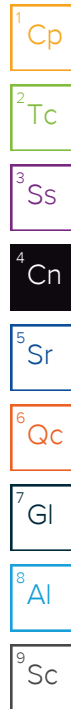


Daphne Richards
Project Manager

Sample Delivery Group (SDG) Narrative

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L1736218-01	B-3	45000 G-2016



Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Total Nitrogen	5.10		0.200	1	05/23/2024 17:47	WG2290176

1
Cp

2
Tc

Calculated Results

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (calculated) as CaCO3	2940		2.50	1	05/31/2024 21:06	WG2289930

3
Ss

4
Cn

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	4210		100	1	05/21/2024 14:14	WG2290138

5
Sr

6
Qc

Gravimetric Analysis by Method 2540 D-2015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Suspended Solids	11.2		2.50	1	05/18/2024 13:22	WG2288515

7
Gl

8
Al

Wet Chemistry by Method 2130 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Turbidity	4.44		0.400	1	05/15/2024 15:02	WG2287019

9
Sc

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Fluoride	ND		1.50	10	05/20/2024 22:23	WG2288995
Sulfate	2560		500	100	05/20/2024 22:41	WG2288995

Sample Narrative:

L1736218-01 WG2288995: Dilution due to matrix interference

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Perchlorate	ND		0.0200	5	05/20/2024 13:28	WG2289082

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Kjeldahl Nitrogen, TKN	0.355	J5	0.250	1	05/23/2024 17:47	WG2290978

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.74		0.200	2	05/21/2024 14:47	WG2290176

Sample Narrative:

L1736218-01 WG2290176: Dilution due to matrix interference

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Phosphorus,Total	ND	J6	0.100	1	05/23/2024 16:03	WG2292287

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Wet Chemistry by Method 4500Cl G-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chlorine,residual	ND	T8	0.100	1	05/17/2024 11:43	WG2287685

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.11	T8	1	05/16/2024 12:08	WG2287384

Sample Narrative:
L1736218-01 WG2287384: 7.11 at 19.6C

Wet Chemistry by Method 4500O G-2016

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Oxygen	9.4 at 10.7c	T8	3	1	05/21/2024 11:10	WG2290333

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	05/16/2024 19:21	WG2286918

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Sulfur	718		10.0	10	05/22/2024 21:56	WG2289924

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Antimony	ND		0.00500	1	05/31/2024 21:06	WG2289930
Arsenic	0.0333		0.00100	1	05/31/2024 21:06	WG2289930
Barium	0.0136		0.00500	1	05/31/2024 21:06	WG2289930
Beryllium	ND		0.00100	1	05/31/2024 21:06	WG2289930
Boron	1.99		0.400	10	06/11/2024 21:29	WG2301776
Cadmium	ND		0.00100	1	05/31/2024 21:06	WG2289930
Calcium	542		1.00	1	05/31/2024 21:06	WG2289930
Copper	0.00122		0.00100	1	05/31/2024 21:06	WG2289930
Iron	ND		0.100	1	05/31/2024 21:06	WG2289930
Lead	ND		0.00200	1	05/31/2024 21:06	WG2289930
Magnesium	385		1.00	1	05/31/2024 21:06	WG2289930
Manganese	0.462		0.00500	1	05/31/2024 21:06	WG2289930
Molybdenum	0.0169		0.00500	1	05/31/2024 21:06	WG2289930
Nickel	0.00523		0.00200	1	05/31/2024 21:06	WG2289930
Selenium	0.0117		0.00200	1	06/09/2024 17:10	WG2300522
Silver	ND		0.00100	1	05/31/2024 21:06	WG2289930
Thallium	ND		0.00100	1	05/31/2024 21:06	WG2289930
Zinc	ND		0.0200	1	05/31/2024 21:06	WG2289930

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	05/19/2024 15:39	WG2289367
(S) a,a,a-Trifluorotoluene(FID)	91.9		78.0-120		05/19/2024 15:39	WG2289367

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	05/17/2024 09:33	WG2288081
Acrolein	ND		0.0500	1	05/17/2024 09:33	WG2288081
Acrylonitrile	ND		0.0100	1	05/17/2024 09:33	WG2288081
Benzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Bromobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Bromodichloromethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Bromoform	ND		0.00100	1	05/17/2024 09:33	WG2288081
Bromomethane	ND		0.00500	1	05/17/2024 09:33	WG2288081
n-Butylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
sec-Butylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
tert-Butylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Carbon tetrachloride	ND		0.00100	1	05/17/2024 09:33	WG2288081
Chlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Chlorodibromomethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Chloroethane	ND		0.00500	1	05/17/2024 09:33	WG2288081
Chloroform	ND		0.00500	1	05/17/2024 09:33	WG2288081
Chloromethane	ND		0.00250	1	05/17/2024 09:33	WG2288081
2-Chlorotoluene	ND		0.00100	1	05/17/2024 09:33	WG2288081
4-Chlorotoluene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	05/17/2024 09:33	WG2288081
1,2-Dibromoethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Dibromomethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2-Dichlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,3-Dichlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,4-Dichlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Dichlorodifluoromethane	ND		0.00500	1	05/17/2024 09:33	WG2288081
1,1-Dichloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2-Dichloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1-Dichloroethene	ND		0.00100	1	05/17/2024 09:33	WG2288081
cis-1,2-Dichloroethene	ND		0.00100	1	05/17/2024 09:33	WG2288081
trans-1,2-Dichloroethene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2-Dichloropropane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1-Dichloropropene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,3-Dichloropropane	ND		0.00100	1	05/17/2024 09:33	WG2288081
cis-1,3-Dichloropropene	ND		0.00100	1	05/17/2024 09:33	WG2288081
trans-1,3-Dichloropropene	ND		0.00100	1	05/17/2024 09:33	WG2288081
2,2-Dichloropropane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Di-isopropyl ether	ND		0.00100	1	05/17/2024 09:33	WG2288081
Ethylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Hexachloro-1,3-butadiene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Isopropylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
p-Isopropyltoluene	ND		0.00100	1	05/17/2024 09:33	WG2288081
2-Butanone (MEK)	ND		0.0100	1	05/17/2024 09:33	WG2288081
Methylene Chloride	ND		0.00500	1	05/17/2024 09:33	WG2288081
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	05/17/2024 09:33	WG2288081
Methyl tert-butyl ether	ND		0.00100	1	05/17/2024 09:33	WG2288081
Naphthalene	ND		0.00500	1	05/17/2024 09:33	WG2288081
n-Propylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Styrene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1,1,2-Tetrachloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Tetrachloroethene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Toluene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2,3-Trichlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2,4-Trichlorobenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1,1-Trichloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,1,2-Trichloroethane	ND		0.00100	1	05/17/2024 09:33	WG2288081
Trichloroethene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Trichlorofluoromethane	ND		0.00500	1	05/17/2024 09:33	WG2288081
1,2,3-Trichloropropane	ND		0.00250	1	05/17/2024 09:33	WG2288081
1,2,4-Trimethylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,2,3-Trimethylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
1,3,5-Trimethylbenzene	ND		0.00100	1	05/17/2024 09:33	WG2288081
Vinyl chloride	ND		0.00100	1	05/17/2024 09:33	WG2288081
Xylenes, Total	ND		0.00300	1	05/17/2024 09:33	WG2288081
(S) Toluene-d8	106		80.0-120		05/17/2024 09:33	WG2288081
(S) 4-Bromofluorobenzene	99.3		77.0-126		05/17/2024 09:33	WG2288081
(S) 1,2-Dichloroethane-d4	102		70.0-130		05/17/2024 09:33	WG2288081

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R4073210-1 05/21/24 14:14

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	12.0	10.0	10.0	10.0

L1736394-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1736394-03 05/21/24 14:14 • (DUP) R4073210-3 05/21/24 14:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u> %	DUP RPD Limits %
Dissolved Solids	3050	3200	1	4.80		10

L1736448-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1736448-08 05/21/24 14:14 • (DUP) R4073210-4 05/21/24 14:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u> %	DUP RPD Limits %
Dissolved Solids	2530	2770	1	9.06		10

Laboratory Control Sample (LCS)

(LCS) R4073210-2 05/21/24 14:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u> %
Dissolved Solids	8800	8400	95.5	85.0-115	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4071624-1 05/18/24 13:22

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Suspended Solids	U		2.50	2.50

L1736364-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1736364-08 05/18/24 13:22 • (DUP) R4071624-3 05/18/24 13:22

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		%			%	%	
Suspended Solids	5370		5660	1	5.26				10	

L1736364-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1736364-15 05/18/24 13:22 • (DUP) R4071624-4 05/18/24 13:22

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		%			%	%	
Suspended Solids	2900		2800	1	3.51				10	

Laboratory Control Sample (LCS)

(LCS) R4071624-2 05/18/24 13:22

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		<u>LCS Qualifier</u>	
	mg/l		mg/l		%		%			
Suspended Solids	773		824	107	107		85.0-115			

Method Blank (MB)

(MB) R4070005-1 05/15/24 15:02

Analyte	MB Result NTU	<u>MB Qualifier</u>	MB MDL NTU	MB RDL NTU
Turbidity	U		0.200	0.400

L1736218-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736218-01 05/15/24 15:02 • (DUP) R4070005-3 05/15/24 15:02

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	NTU		NTU		%			%	%	
Turbidity	4.44		4.45		1	0.225			20	

Laboratory Control Sample (LCS)

(LCS) R4070005-2 05/15/24 15:02

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		<u>LCS Qualifier</u>	
	NTU		NTU		%		%			
Turbidity	40.0		40.5		101		90.0-110			

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4072158-1 05/20/24 11:24

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Fluoride	U	0.0640	0.150	
Sulfate	U	0.594	5.00	

L1735998-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1735998-01 05/20/24 16:07 • (DUP) R4072158-3 05/20/24 16:24

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		Dilution	%			%	
Fluoride	5.68		5.68		1	0.0563			15	
Sulfate	121		121		1	0.00497			15	

L1736099-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1736099-07 05/20/24 19:06 • (DUP) R4072158-5 05/20/24 19:24

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		Dilution	%			%	
Fluoride	ND		ND		1	0.000			15	
Sulfate	5.04		5.07		1	0.536			15	

Laboratory Control Sample (LCS)

(LCS) R4072158-2 05/20/24 11:42

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		<u>LCS Qualifier</u>	
	mg/l		mg/l		%		%			
Fluoride	8.00		8.37		105	90.0-110				
Sulfate	40.0		41.7		104	90.0-110				

L1735998-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1735998-01 05/20/24 16:07 • (MS) R4072158-4 05/20/24 16:42

Analyte	Spike Amount		Original Result		MS Result		MS Rec.		Dilution		Rec. Limits		<u>MS Qualifier</u>	
	mg/l		mg/l		mg/l		%				%			
Fluoride	8.00		5.68		12.5		84.9		1		80.0-120			
Sulfate	40.0		121		140		47.5		1		80.0-120		<u>J6</u>	

L1736099-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736099-07 05/20/24 19:06 • (MS) R4072158-6 05/20/24 19:42 • (MSD) R4072158-7 05/20/24 20:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	8.00	ND	8.02	7.89	100	98.6	1	80.0-120			1.68	15
Sulfate	40.0	5.04	46.2	45.3	103	101	1	80.0-120			1.90	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4072581-1 05/20/24 01:23

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Perchlorate	U		0.000300	0.00400

Method Blank (MB)

(MB) R4072581-3 05/20/24 02:47

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Perchlorate	U		0.000300	0.00400

L1736976-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1736976-02 05/20/24 13:56 • (DUP) R4072581-11 05/20/24 14:24

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		Dilution	%			%	
Perchlorate	ND		ND		1	0.000				15

L1736976-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1736976-20 05/20/24 20:32 • (DUP) R4072581-15 05/20/24 21:00

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	mg/l		mg/l		Dilution	%			%	
Perchlorate	ND		ND		1	26.0	P1			15

Laboratory Control Sample (LCS)

(LCS) R4072581-2 05/20/24 02:19

Analyte	Spike Amount		LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l		mg/l	%	%	
Perchlorate	0.0100		0.0105	105	90.0-110	

L1736031-44 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-44 05/20/24 06:30 • (MS) R4072581-4 05/20/24 06:58

Analyte	Spike Amount		Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>
	mg/l		mg/l	mg/l	%		%	
Perchlorate	0.0100		0.0143	0.0270	127	1	80.0-120	J5

L1736031-44 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-44 05/20/24 06:30 • (MS) R4072581-4 05/20/24 06:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
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Sample Narrative:

MS: Spike failed due to sample matrix

L1736031-45 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-45 05/20/24 07:26 • (MS) R4072581-5 05/20/24 07:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.00404	0.0155	114	1	80.0-120	

L1736031-46 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-46 05/20/24 08:21 • (MS) R4072581-6 05/20/24 08:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.0183	0.0300	117	1	80.0-120	

L1736031-47 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-47 05/20/24 09:17 • (MS) R4072581-7 05/20/24 09:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.00954	0.0216	120	1	80.0-120	

L1736031-49 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-49 05/20/24 10:13 • (MS) R4072581-8 05/20/24 10:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.0605	0.0717	112	1	80.0-120	

L1736031-50 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-50 05/20/24 11:09 • (MS) R4072581-9 05/20/24 11:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.0612	0.0733	121	1	80.0-120	V

L1736031-50 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-50 05/20/24 11:09 • (MS) R4072581-9 05/20/24 11:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
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Sample Narrative:

MS: Spike failed due to sample matrix

L1736031-63 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736031-63 05/20/24 12:05 • (MS) R4072581-10 05/20/24 12:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.00951	0.0213	118	1	80.0-120	

L1736976-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736976-02 05/20/24 13:56 • (MS) R4072581-12 05/20/24 14:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	ND	0.0108	108	1	80.0-120	

L1736976-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736976-15 05/20/24 18:40 • (MS) R4072581-13 05/20/24 19:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	0.0498	0.0622	124	1	80.0-120	✓

Sample Narrative:

MS: Spike failed due to sample matrix

L1736976-16 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736976-16 05/20/24 19:36 • (MS) R4072581-14 05/20/24 20:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	0.0100	ND	0.0154	120	1	80.0-120	

L1736976-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736976-20 05/20/24 20:32 • (MS) R4072581-16 05/20/24 21:27 • (MSD) R4072581-17 05/20/24 21:55

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Perchlorate	0.0100	ND	0.0134	0.0143	97.7	107	1	80.0-120			6.41	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4073452-1 05/23/24 16:33

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	U		0.140	0.250

L1736394-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736394-01 05/23/24 16:51 • (DUP) R4073452-5 05/23/24 16:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	0.383	ND	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R4073452-2 05/23/24 16:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Kjeldahl Nitrogen, TKN	12.3	12.7	104	80.0-120	

L1736218-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736218-01 05/23/24 17:47 • (MS) R4073452-3 05/23/24 16:41 • (MSD) R4073452-4 05/23/24 16:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	0.355	6.21	6.35	117	120	1	90.0-110	J5	J5	2.23	20

Sample Narrative:

MS: spike failed due to sample matrix

L1736618-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736618-03 05/23/24 17:07 • (MS) R4073452-7 05/23/24 17:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Kjeldahl Nitrogen, TKN	5.00	ND	5.52	107	1	90.0-110	

Method Blank (MB)

(MB) R4072301-1 05/21/24 14:31					
Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l	
Nitrate-Nitrite	U		0.0500	0.100	

L1736322-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1736322-02 05/21/24 14:49 • (DUP) R4072301-5 05/21/24 14:51					
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
	mg/l	mg/l		%	%
Nitrate-Nitrite	0.750	0.753	1	0.399	20

L1736501-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1736501-07 05/21/24 15:07 • (DUP) R4072301-6 05/21/24 15:08					
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
	mg/l	mg/l		%	%
Nitrate-Nitrite	ND	ND	1	0.000	20

Laboratory Control Sample (LCS)

(LCS) R4072301-2 05/21/24 14:33					
Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
	mg/l	mg/l	%	%	
Nitrate-Nitrite	2.50	2.65	106	90.0-110	

L1736501-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1736501-07 05/21/24 15:07 • (MS) R4072301-7 05/21/24 15:10					
Analyte	Spike Amount	Original Result	MS Result	MS Rec.	<u>MS Qualifier</u>
	mg/l	mg/l	mg/l	%	
Nitrate-Nitrite	2.50	ND	1.94	77.6	<u>J6</u>

Sample Narrative:

MS; Dilution due to matrix interference

L1736155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736155-01 05/21/24 14:34 • (MS) R4072301-3 05/21/24 14:35 • (MSD) R4072301-4 05/21/24 14:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	25.0	9.50	34.1	34.3	98.4	99.2	10	90.0-110			0.585	20

Sample Narrative:

OS: Dilution due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4073417-1 05/23/24 15:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	U		0.0350	0.100

L1736394-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736394-01 05/23/24 16:15 • (DUP) R4073417-5 05/23/24 16:16

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	mg/l		mg/l		%				%	
Phosphorus,Total	ND		ND		1	0.000				20

L1736613-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736613-01 05/23/24 16:21 • (DUP) R4073417-6 05/23/24 16:23

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	mg/l		mg/l		%				%	
Phosphorus,Total	0.343		0.334		1	2.66				20

Laboratory Control Sample (LCS)

(LCS) R4073417-2 05/23/24 16:01

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	mg/l		mg/l		%		%			
Phosphorus,Total	1.81		1.70		94.2		85.0-115			

L1736218-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736218-01 05/23/24 16:03 • (MS) R4073417-3 05/23/24 16:05 • (MSD) R4073417-4 05/23/24 16:06

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Phosphorus, Total	2.50	ND	2.32	2.10	92.8	84.0	1	90.0-110		J6	9.95	20

Method Blank (MB)

(MB) R4070913-1 05/17/24 11:42

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Chlorine,residual	U	0.0260	0.100	0.100

L1736218-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736218-01 05/17/24 11:43 • (DUP) R4070913-4 05/17/24 11:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u> %	DUP RPD Limits %
Chlorine,residual	ND	ND	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4070913-2 05/17/24 11:42 • (LCSD) R4070913-3 05/17/24 11:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u> %	<u>LCSD Qualifier</u> %	RPD %	RPD Limits %
Chlorine,residual	1.00	0.997	0.979	99.7	97.9	85.0-115		1.82	20	

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1736107-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1736107-01 05/16/24 12:08 • (DUP) R4070543-2 05/16/24 12:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	8.06	8.04	1	0.248		1

Sample Narrative:

OS: 8.06 at 19.8C
DUP: 8.04 at 19.9C

L1736566-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1736566-03 05/16/24 12:08 • (DUP) R4070543-4 05/16/24 12:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	12.1	12.2	1	0.329		1

Sample Narrative:

OS: 12.12 at 25.8C
DUP: 12.16 at 25.6C

Laboratory Control Sample (LCS)

(LCS) R4070543-1 05/16/24 12:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 21.4C

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Method Blank (MB)

(MB) R4070716-1 05/16/24 19:16

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U	0.000100	0.000200	

Laboratory Control Sample (LCS)

(LCS) R4070716-2 05/16/24 19:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00274	913	85.0-115	

L1736218-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736218-01 05/16/24 19:21 • (MS) R4070716-4 05/16/24 19:26 • (MSD) R4070716-5 05/16/24 19:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00246	0.00240	82.1	80.1	1	70.0-130		2.46		20

L1736394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736394-01 05/16/24 19:31 • (MS) R4070716-6 05/16/24 19:33 • (MSD) R4070716-7 05/16/24 19:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00282	0.00284	94.0	94.8	1	70.0-130		0.819		20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R4072948-1 05/22/24 18:13

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Sulfur	U	0.0912	1.00	

Laboratory Control Sample (LCS)

(LCS) R4072948-2 05/22/24 18:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Sulfur	10.0	9.77	97.7	85.0-115	

L1733725-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1733725-01 05/22/24 18:21 • (MS) R4072948-4 05/22/24 18:28 • (MSD) R4072948-5 05/22/24 18:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u> E V	<u>MSD Qualifier</u> E V	RPD %	RPD Limits %
Sulfur	10.0	636	706	660	705	241	1	70.0-130	E V	E V	6.78	20

L1736313-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736313-01 05/22/24 18:36 • (MS) R4072948-6 05/22/24 18:39 • (MSD) R4072948-7 05/22/24 18:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u> E V	<u>MSD Qualifier</u> E V	RPD %	RPD Limits %
Sulfur	10.0	27.4	38.5	39.1	111	117	1	70.0-130			1.43	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4075763-1 05/30/24 14:15

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.00172	0.00500
Arsenic	U		0.000195	0.00100
Barium	U		0.000476	0.00500
Beryllium	U		0.000201	0.00100
Cadmium	U		0.000160	0.00100
Calcium	U		0.112	1.00
Copper	U		0.000670	0.00100
Iron	U		0.0447	0.100
Lead	U		0.000513	0.00200
Magnesium	U		0.0690	1.00
Manganese	U		0.000982	0.00500
Molybdenum	U		0.000841	0.00500
Nickel	U		0.000514	0.00200
Silver	U		0.000144	0.00100
Thallium	U		0.000176	0.00100
Zinc	U		0.00796	0.0200

Laboratory Control Sample (LCS)

(LCS) R4075763-2 05/30/24 14:18

Analyte	Spike Amount mg/l	LCS Result mg/l	<u>LCS Rec.</u> %	Rec. Limits %	<u>LCS Qualifier</u>
Antimony	0.0500	0.0522	104	85.0-115	
Arsenic	0.0500	0.0519	104	85.0-115	
Barium	0.0500	0.0497	99.4	85.0-115	
Beryllium	0.0500	0.0502	100	85.0-115	
Cadmium	0.0500	0.0514	103	85.0-115	
Calcium	5.00	5.00	100	85.0-115	
Copper	0.0500	0.0479	95.8	85.0-115	
Iron	1.00	1.02	102	85.0-115	
Lead	0.0500	0.0502	100	85.0-115	
Magnesium	5.00	5.06	101	85.0-115	
Manganese	0.0500	0.0520	104	85.0-115	
Molybdenum	0.0500	0.0489	97.9	85.0-115	
Nickel	0.0500	0.0527	105	85.0-115	
Silver	0.0500	0.0522	104	85.0-115	
Thallium	0.0500	0.0492	98.5	85.0-115	
Zinc	0.0500	0.0532	106	85.0-115	

L1736394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736394-01 05/30/24 14:21 • (MS) R4075763-4 05/30/24 14:28 • (MSD) R4075763-5 05/30/24 14:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0540	0.0549	108	110	1	70.0-130			1.58	20
Arsenic	0.0500	0.0168	0.0658	0.0660	98.1	98.5	1	70.0-130			0.314	20
Barium	0.0500	0.0427	0.0912	0.0939	97.0	102	1	70.0-130			2.97	20
Beryllium	0.0500	ND	0.0468	0.0492	93.5	98.4	1	70.0-130			5.08	20
Cadmium	0.0500	ND	0.0504	0.0515	101	103	1	70.0-130			2.30	20
Calcium	5.00	64.7	69.5	70.0	95.2	106	1	70.0-130			0.790	20
Copper	0.0500	ND	0.0454	0.0467	89.3	92.0	1	70.0-130			2.85	20
Iron	1.00	0.128	1.13	1.12	99.9	99.0	1	70.0-130			0.834	20
Lead	0.0500	ND	0.0507	0.0502	101	100	1	70.0-130			1.09	20
Magnesium	5.00	27.9	32.4	33.1	89.0	103	1	70.0-130			2.21	20
Manganese	0.0500	0.00648	0.0545	0.0547	96.1	96.4	1	70.0-130			0.321	20
Molybdenum	0.0500	0.00723	0.0570	0.0592	99.5	104	1	70.0-130			3.80	20
Nickel	0.0500	ND	0.0487	0.0484	97.5	96.8	1	70.0-130			0.675	20
Silver	0.0500	ND	0.0514	0.0515	103	103	1	70.0-130			0.221	20
Thallium	0.0500	ND	0.0500	0.0495	99.4	98.5	1	70.0-130			0.900	20
Zinc	0.0500	ND	0.0500	0.0500	100	100	1	70.0-130			0.0772	20

L1736394-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736394-02 05/30/24 14:34 • (MS) R4075763-6 05/30/24 14:38 • (MSD) R4075763-7 05/30/24 14:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	ND	0.0550	0.0545	110	109	1	70.0-130			0.934	20
Arsenic	0.0500	0.0171	0.0665	0.0661	98.8	98.1	1	70.0-130			0.564	20
Barium	0.0500	0.0454	0.0954	0.0963	100	102	1	70.0-130			0.909	20
Beryllium	0.0500	ND	0.0468	0.0499	93.5	99.7	1	70.0-130			6.43	20
Cadmium	0.0500	ND	0.0490	0.0504	97.9	101	1	70.0-130			2.98	20
Calcium	5.00	67.4	74.9	74.6	151	143	1	70.0-130	Y	Y	0.488	20
Copper	0.0500	0.00106	0.047	0.0457	87.4	89.2	1	70.0-130			2.01	20
Iron	1.00	0.285	1.23	1.22	94.6	93.8	1	70.0-130			0.648	20
Lead	0.0500	ND	0.0497	0.0505	98.4	100	1	70.0-130			1.60	20
Magnesium	5.00	29.1	33.3	34.6	84.0	110	1	70.0-130			3.79	20
Manganese	0.0500	0.0155	0.0630	0.0632	95.0	95.4	1	70.0-130			0.325	20
Molybdenum	0.0500	0.00689	0.0579	0.0584	102	103	1	70.0-130			0.817	20
Nickel	0.0500	ND	0.0483	0.0490	94.9	96.3	1	70.0-130			1.45	20
Silver	0.0500	ND	0.0506	0.0506	101	101	1	70.0-130			0.0127	20
Thallium	0.0500	ND	0.0487	0.0498	96.9	99.1	1	70.0-130			2.21	20
Zinc	0.0500	ND	0.0508	0.0513	102	103	1	70.0-130			0.960	20

Method Blank (MB)

(MB) R4079242-1 06/09/24 16:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Selenium	U	0.000437	0.00200	

Laboratory Control Sample (LCS)

(LCS) R4079242-2 06/09/24 16:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Selenium	0.0500	0.0502	100	85.0-115	

L1741424-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1741424-04 06/09/24 16:39 • (MS) R4079242-4 06/09/24 16:46 • (MSD) R4079242-5 06/09/24 16:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	0.0500	ND	0.0477	95.5	0.0497	1	70.0-130		3.92		20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4080394-1 06/11/24 21:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U	0.0177	0.0400	

Laboratory Control Sample (LCS)

(LCS) R4080394-2 06/11/24 21:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	0.0500	0.0463	92.6	85.0-115	

L1744432-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1744432-10 06/11/24 21:53 • (MS) R4080394-4 06/11/24 22:00 • (MSD) R4080394-5 06/11/24 22:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	0.0500	0.132	0.181	0.194	98.3	124	1	70.0-130		6.87		20

L1744432-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1744432-11 06/11/24 22:07 • (MS) R4080394-6 06/11/24 22:10 • (MSD) R4080394-7 06/11/24 22:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	0.0500	0.135	0.189	0.189	107	108	1	70.0-130		0.238		20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

Method Blank (MB)

(MB) R4072877-3 05/19/24 13:52													1 Cp	
Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l									2 Tc	
TPH (GC/FID) Low Fraction	0.0427	J	0.0314	0.100									3 Ss	
(S) a,a,a-Trifluorotoluene(FID)	91.7	78.0-120											4 Cn	
Laboratory Control Sample (LCS)														5 Sr
(LCS) R4072877-2 05/19/24 13:06													6 Qc	
Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier									7 Gl
TPH (GC/FID) Low Fraction	5.00	4.84	96.8	72.0-127										8 Al
(S) a,a,a-Trifluorotoluene(FID)	99.4			78.0-120									9 Sc	
L1737110-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)														
(OS) L1737110-02 05/19/24 18:19 • (MS) R4072877-4 05/19/24 21:45 • (MSD) R4072877-5 05/19/24 22:08														
Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %		
TPH (GC/FID) Low Fraction	5.00	ND	4.69	5.89	93.0	117	1	10.0-160		J3	22.7	22		
(S) a,a,a-Trifluorotoluene(FID)	96.3			98.3	96.3	98.3	78.0-120							

Method Blank (MB)

(MB) R4071579-3 05/17/24 07:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tet-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R4071579-3 05/17/24 07:30

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	105			80.0-120
(S) 4-Bromofluorobenzene	100			77.0-126
(S) 1,2-Dichloroethane-d4	102			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4071579-1 05/17/24 06:29 • (LCSD) R4071579-2 05/17/24 06:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	0.0250	0.0373	0.0362	149	145	19.0-160			2.99	27
Acrolein	0.0250	0.0153	0.0136	61.2	54.4	10.0-160			11.8	26
Acrylonitrile	0.0250	0.0258	0.0249	103	99.6	55.0-149			3.55	20
Benzene	0.00500	0.00514	0.00499	103	99.8	70.0-123			2.96	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4071579-1 05/17/24 06:29 • (LCSD) R4071579-2 05/17/24 06:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromobenzene	0.00500	0.00481	0.00477	96.2	95.4	73.0-121			0.835	20
Bromodichloromethane	0.00500	0.00481	0.00459	96.2	91.8	75.0-120			4.68	20
Bromoform	0.00500	0.00448	0.00423	89.6	84.6	68.0-132			5.74	20
Bromomethane	0.00500	0.00373	0.00406	74.6	81.2	10.0-160			8.47	25
n-Butylbenzene	0.00500	0.00519	0.00503	104	101	73.0-125			3.13	20
sec-Butylbenzene	0.00500	0.00494	0.00489	98.8	97.8	75.0-125			1.02	20
tet-Butylbenzene	0.00500	0.00517	0.00502	103	100	76.0-124			2.94	20
Carbon tetrachloride	0.00500	0.00522	0.00503	104	101	68.0-126			3.71	20
Chlorobenzene	0.00500	0.00523	0.00487	105	97.4	80.0-121			7.13	20
Chlorodibromomethane	0.00500	0.00501	0.00466	100	93.2	77.0-125			7.24	20
Chloroethane	0.00500	0.00507	0.00521	101	104	47.0-150			2.72	20
Chloroform	0.00500	0.00504	0.00516	101	103	73.0-120			2.35	20
Chloromethane	0.00500	0.00516	0.00498	103	99.6	41.0-142			3.55	20
2-Chlorotoluene	0.00500	0.00516	0.00507	103	101	76.0-123			1.76	20
4-Chlorotoluene	0.00500	0.00487	0.00485	97.4	97.0	75.0-122			0.412	20
1,2-Dibromo-3-Chloropropane	0.00500	0.00434	0.00369	86.8	73.8	58.0-134			16.2	20
1,2-Dibromoethane	0.00500	0.00488	0.00457	97.6	91.4	80.0-122			6.56	20
Dibromomethane	0.00500	0.00490	0.00480	98.0	96.0	80.0-120			2.06	20
1,2-Dichlorobenzene	0.00500	0.00532	0.00515	106	103	79.0-121			3.25	20
1,3-Dichlorobenzene	0.00500	0.00504	0.00495	101	99.0	79.0-120			1.80	20
1,4-Dichlorobenzene	0.00500	0.00496	0.00499	99.2	99.8	79.0-120			0.603	20
Dichlorodifluoromethane	0.00500	0.00425	0.00403	85.0	80.6	51.0-149			5.31	20
1,1-Dichloroethane	0.00500	0.00509	0.00487	102	97.4	70.0-126			4.42	20
1,2-Dichloroethane	0.00500	0.00507	0.00492	101	98.4	70.0-128			3.00	20
1,1-Dichloroethene	0.00500	0.00489	0.00459	97.8	91.8	71.0-124			6.33	20
cis-1,2-Dichloroethene	0.00500	0.00529	0.00507	106	101	73.0-120			4.25	20
trans-1,2-Dichloroethene	0.00500	0.00501	0.00503	100	101	73.0-120			0.398	20
1,2-Dichloropropane	0.00500	0.00530	0.00477	106	95.4	77.0-125			10.5	20
1,1-Dichloropropene	0.00500	0.00560	0.00508	112	102	74.0-126			9.74	20
1,3-Dichloropropane	0.00500	0.00495	0.00474	99.0	94.8	80.0-120			4.33	20
cis-1,3-Dichloropropene	0.00500	0.00485	0.00482	97.0	96.4	80.0-123			0.620	20
trans-1,3-Dichloropropene	0.00500	0.00468	0.00446	93.6	89.2	78.0-124			4.81	20
2,2-Dichloropropane	0.00500	0.00471	0.00429	94.2	85.8	58.0-130			9.33	20
Di-Isopropyl ether	0.00500	0.00502	0.00477	100	95.4	58.0-138			5.11	20
Ethylbenzene	0.00500	0.00546	0.00507	109	101	79.0-123			7.41	20
Hexachloro-1,3-butadiene	0.00500	0.00488	0.00454	97.6	90.8	54.0-138			7.22	20
Isopropylbenzene	0.00500	0.00519	0.00493	104	98.6	76.0-127			5.14	20
p-Isopropyltoluene	0.00500	0.00508	0.00484	102	96.8	76.0-125			4.84	20
2-Butanone (MEK)	0.0250	0.0315	0.0302	126	121	44.0-160			4.21	20
Methylene Chloride	0.00500	0.00492	0.00471	98.4	94.2	67.0-120			4.36	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4071579-1 05/17/24 06:29 • (LCSD) R4071579-2 05/17/24 06:49

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.0250	0.0227	0.0221	90.8	88.4	68.0-142			2.68	20
Methyl tert-butyl ether	0.00500	0.00469	0.00449	93.8	89.8	68.0-125			4.36	20
Naphthalene	0.00500	0.00414	0.00394	82.8	78.8	54.0-135			4.95	20
n-Propylbenzene	0.00500	0.00513	0.00493	103	98.6	77.0-124			3.98	20
Styrene	0.00500	0.00512	0.00487	102	97.4	73.0-130			5.01	20
1,1,1,2-Tetrachloroethane	0.00500	0.00492	0.00482	98.4	96.4	75.0-125			2.05	20
1,1,2,2-Tetrachloroethane	0.00500	0.00451	0.00419	90.2	83.8	65.0-130			7.36	20
1,1,2-Trichlorotrifluoroethane	0.00500	0.00541	0.00515	108	103	69.0-132			4.92	20
Tetrachloroethene	0.00500	0.00552	0.00525	110	105	72.0-132			5.01	20
Toluene	0.00500	0.00512	0.00491	102	98.2	79.0-120			4.19	20
1,2,3-Trichlorobenzene	0.00500	0.00412	0.00394	82.4	78.8	50.0-138			4.47	20
1,2,4-Trichlorobenzene	0.00500	0.00401	0.00387	80.2	77.4	57.0-137			3.55	20
1,1,1-Trichloroethane	0.00500	0.00496	0.00474	99.2	94.8	73.0-124			4.54	20
1,1,2-Trichloroethane	0.00500	0.00488	0.00467	97.6	93.4	80.0-120			4.40	20
Trichloroethene	0.00500	0.00578	0.00557	116	111	78.0-124			3.70	20
Trichlorofluoromethane	0.00500	0.00540	0.00515	108	103	59.0-147			4.74	20
1,2,3-Trichloropropane	0.00500	0.00495	0.00504	99.0	101	73.0-130			1.80	20
1,2,4-Trimethylbenzene	0.00500	0.00494	0.00477	98.8	95.4	76.0-121			3.50	20
1,2,3-Trimethylbenzene	0.00500	0.00496	0.00478	99.2	95.6	77.0-120			3.70	20
1,3,5-Trimethylbenzene	0.00500	0.00530	0.00507	106	101	76.0-122			4.44	20
Vinyl chloride	0.00500	0.00529	0.00515	106	103	67.0-131			2.68	20
Xylenes, Total	0.0150	0.0156	0.0150	104	100	79.0-123			3.92	20
(S) Toluene-d8				101	105	80.0-120				
(S) 4-Bromofluorobenzene				102	102	77.0-126				
(S) 1,2-Dichloroethane-d4				104	103	70.0-130				

L1736398-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736398-01 05/17/24 09:54 • (MS) R4071579-4 05/17/24 17:47 • (MSD) R4071579-5 05/17/24 18:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	0.0250	ND	ND	ND	82.0	86.4	1	10.0-160		5.23	35	
Acrolein	0.0250	ND	ND	ND	111	112	1	10.0-160		0.717	39	
Acrylonitrile	0.0250	ND	0.0299	0.0319	120	128	1	21.0-160		6.47	32	
Benzene	0.00500	ND	0.00593	0.00654	119	131	1	17.0-158		9.78	27	
Bromobenzene	0.00500	ND	0.00563	0.00604	113	121	1	30.0-149		7.03	28	
Bromodichloromethane	0.00500	ND	0.00550	0.00570	110	114	1	31.0-150		3.57	27	
Bromoform	0.00500	ND	0.00494	0.00537	98.8	107	1	29.0-150		8.34	29	
Bromomethane	0.00500	ND	ND	0.00514	86.2	103	1	10.0-160		17.6	38	

L1736398-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1736398-01 05/17/24 09:54 • (MS) R4071579-4 05/17/24 17:47 • (MSD) R4071579-5 05/17/24 18:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier		MSD Qualifier		RPD Limits %
									MS Qualifier		MSD Qualifier		
n-Butylbenzene	0.00500	ND	0.00582	0.00650	116	130	1	31.0-150					30
sec-Butylbenzene	0.00500	ND	0.00580	0.00620	116	124	1	33.0-155					29
tert-Butylbenzene	0.00500	ND	0.00605	0.00639	121	128	1	34.0-153					28
Carbon tetrachloride	0.00500	ND	0.00632	0.00683	126	137	1	23.0-159					28
Chlorobenzene	0.00500	ND	0.00601	0.00645	120	129	1	33.0-152					27
Chlorodibromomethane	0.00500	ND	0.00536	0.00602	107	120	1	37.0-149					27
Chloroethane	0.00500	ND	0.00620	0.00636	124	127	1	10.0-160					30
Chloroform	0.00500	ND	0.00596	0.00643	119	129	1	29.0-154					28
Chloromethane	0.00500	ND	0.00596	0.00639	119	128	1	10.0-160					29
2-Chlorotoluene	0.00500	ND	0.00585	0.00637	117	127	1	32.0-153					28
4-Chlorotoluene	0.00500	ND	0.00553	0.00587	111	117	1	32.0-150					28
1,2-Dibromo-3-Chloropropane	0.00500	ND	ND	ND	88.4	95.4	1	22.0-151					34
1,2-Dibromoethane	0.00500	ND	0.00551	0.00592	110	118	1	34.0-147					27
Dibromomethane	0.00500	ND	0.00548	0.00607	110	121	1	30.0-151					27
1,2-Dichlorobenzene	0.00500	ND	0.00591	0.00636	118	127	1	34.0-149					28
1,3-Dichlorobenzene	0.00500	ND	0.00561	0.00629	112	126	1	36.0-146					27
1,4-Dichlorobenzene	0.00500	ND	0.00559	0.00572	112	114	1	35.0-142					27
Dichlorodifluoromethane	0.00500	ND	0.00531	ND	106	96.8	1	10.0-160					29
1,1-Dichloroethane	0.00500	ND	0.00587	0.00643	117	129	1	25.0-158					27
1,2-Dichloroethane	0.00500	ND	0.00569	0.00618	114	124	1	29.0-151					27
1,1-Dichloroethene	0.00500	ND	0.00588	0.00641	118	128	1	11.0-160					29
cis-1,2-Dichloroethene	0.00500	ND	0.00597	0.00622	119	124	1	10.0-160					27
trans-1,2-Dichloroethene	0.00500	ND	0.00598	0.00634	120	127	1	17.0-153					27
1,2-Dichloropropane	0.00500	ND	0.00605	0.00656	121	131	1	30.0-156					27
1,1-Dichloropropene	0.00500	ND	0.00648	0.00701	130	140	1	25.0-158					27
1,3-Dichloropropane	0.00500	ND	0.00566	0.00637	113	127	1	38.0-147					27
cis-1,3-Dichloropropene	0.00500	ND	0.00502	0.00570	100	114	1	34.0-149					28
trans-1,3-Dichloropropene	0.00500	ND	0.00506	0.00572	101	114	1	32.0-149					28
2,2-Dichloropropane	0.00500	ND	0.00465	0.00532	93.0	106	1	24.0-152					29
Di-isopropyl ether	0.00500	ND	0.00570	0.00614	114	123	1	21.0-160					28
Ethylbenzene	0.00500	ND	0.00625	0.00668	125	134	1	30.0-155					27
Hexachloro-1,3-butadiene	0.00500	ND	0.00562	0.00618	112	124	1	20.0-154					34
Isopropylbenzene	0.00500	ND	0.00605	0.00662	121	132	1	28.0-157					27
p-Isopropyltoluene	0.00500	ND	0.00576	0.00616	115	123	1	30.0-154					29
2-Butanone (MEK)	0.0250	ND	0.0256	0.0265	102	106	1	10.0-160					32
Methylene Chloride	0.00500	ND	0.00563	0.00596	113	119	1	23.0-144					28
4-Methyl-2-pentanone (MIBK)	0.0250	ND	0.0252	0.0277	101	111	1	29.0-160					29
Methyl tert-butyl ether	0.00500	ND	0.00531	0.00561	106	112	1	28.0-150					29
Naphthalene	0.00500	ND	ND	ND	81.6	88.0	1	12.0-156					35
n-Propylbenzene	0.00500	ND	0.00576	0.00629	115	126	1	31.0-154					28